

RESTORATION ADVISORY BOARD (RAB) MEETING

Former Fort Devens Army Installation
February 9, 2023



US Army Corps
of Engineers®



WELCOME!



- This call is being recorded to help develop meeting minutes.
- Unless speaking, please remain on mute to reduce background noise.
- There is time for Q&A, but you can ask a question via the chat box at any time during the meeting and speakers will respond as time allows.
- If you need to leave the call, click “Leave.”



**CHAT
BOX**



**MUTE/
UNMUTE**



Leave



WELCOME!



Thank you for joining us tonight.

U.S. Army and Support:

Thomas Lineer
U.S. Army HQDA/ODCS G-9
Base Realignment and Closure
(BRAC) Environmental
Coordinator (BEC)

Penny Reddy
U.S. Army Corps of Engineers
(USACE) New England District

Dan Groher, P.E.
U.S. Army Corps of Engineers
(USACE) New England District

Andy Vitolins, Steven Perry,
Mark Pasquarello, and
Amy Henschke
SERES-Arcadis JV Team

Regulatory and Other Board Members:

Carol Keating
U.S. Environmental Protection
Agency (USEPA) Region 1

ZaNetta Purnell
USEPA Region 1
Public Affairs Specialist

Joanne Dearden
Massachusetts Department of
Environmental Protection
(MassDEP)

Meg Delorier, John Marc-Aurele,
and Anne-Marie Dowd
MassDevelopment

Community Board Members:

Julie Corenzwit
Amy McCoy
Dave McCoy
Chris Mitchell
Laurie Nehring: Co-Chair
Alix Turner: Co-Chair



WELCOME!



Tonight's topics

1

**Mass
Development
Presentation**

2

**Project
Updates &
Upcoming Work**

3

**Community
Involvement
& RAB Update**

4

**Questions
& Answers**

5

**Next Steps
& Meeting**



1 | MASS DEVELOPMENT



This presentation is being given by MassDevelopment (MassDev) as information to the RAB and community. This presentation is provided by MassDev without input, or review of the HQDA G-9 (BRAC).



DEVENS

A MASSDEVELOPMENT COMMUNITY



MassDevelopment

- Quasi Public Agency established in 1998 by M.G.L. c. 23G, which merged the Government Land Bank and Mass Industrial Finance Agency
- Mission is to (i) issue tax-exempt bonds and loans to non-profits and small businesses; (ii) redevelop surplus state/federal land and blighted properties; and (iii) provide real estate planning and technical assistance to Gateway Cities and other eligible communities
- 11-member Board of Directors appointed by the Governor with three-year staggered terms. Chaired by the Secretary of Housing and Economic Development
- 180 employees located in six offices throughout the Commonwealth

Devens

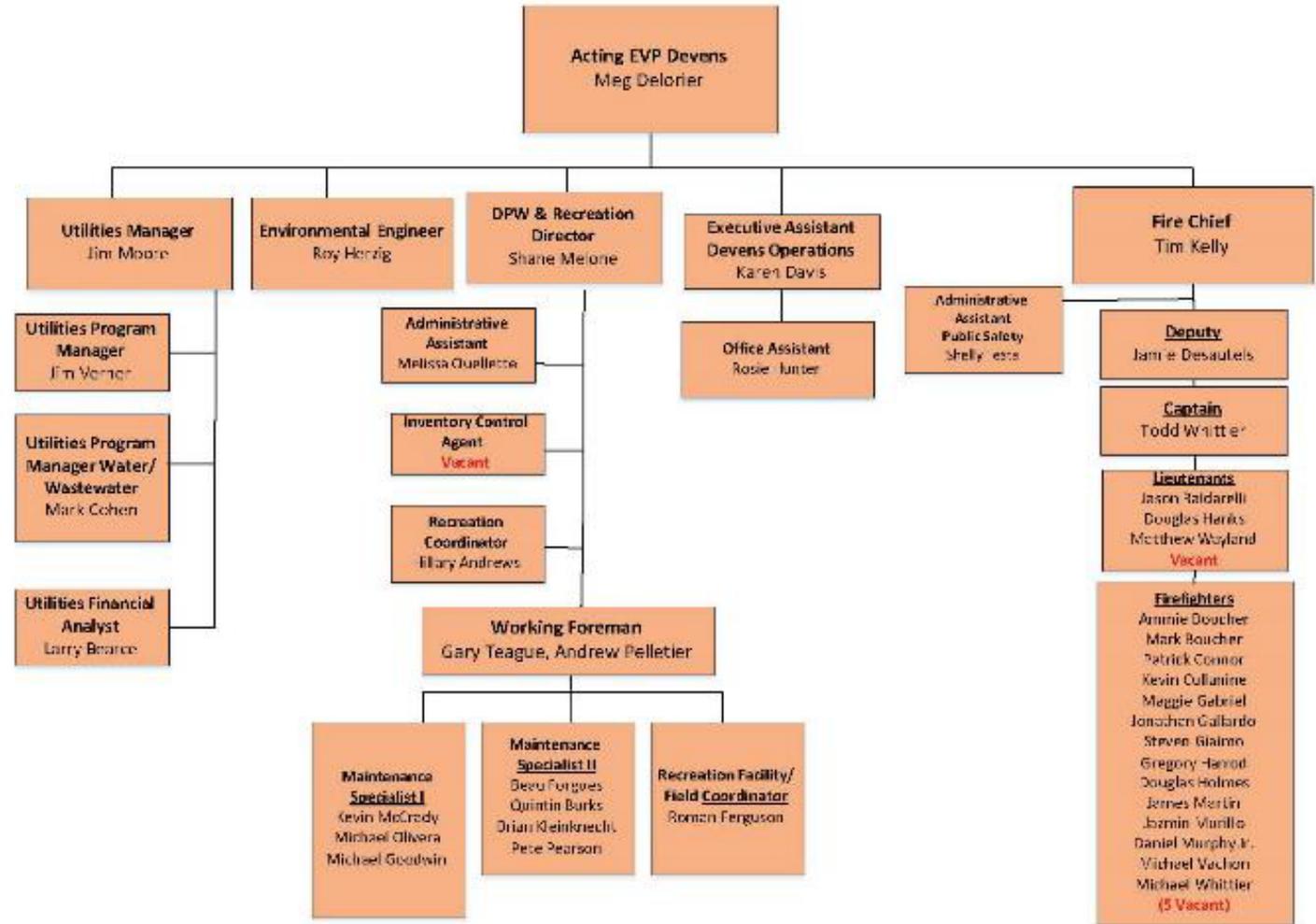
Chapter 498 of the Acts of 1993

"...the termination by the United States of certain activities at Fort Devens threatens to result in **blight, economic dislocation and additional unemployment, all to the further detriment of the welfare of the people**...therefore, it is the purpose of this act to promote the **expeditious and orderly conversion and redevelopment** of Fort Devens for non-military uses, including, but not limited to, **housing, industrial, institutional, educational, governmental, recreational, conservation, commercial or manufacturing uses**, in order to prevent further blight, economic dislocation, and additional unemployment, and to aid in **strengthening the local economy, the regional economy, and the economy of the Commonwealth.**"

Devens

Overview

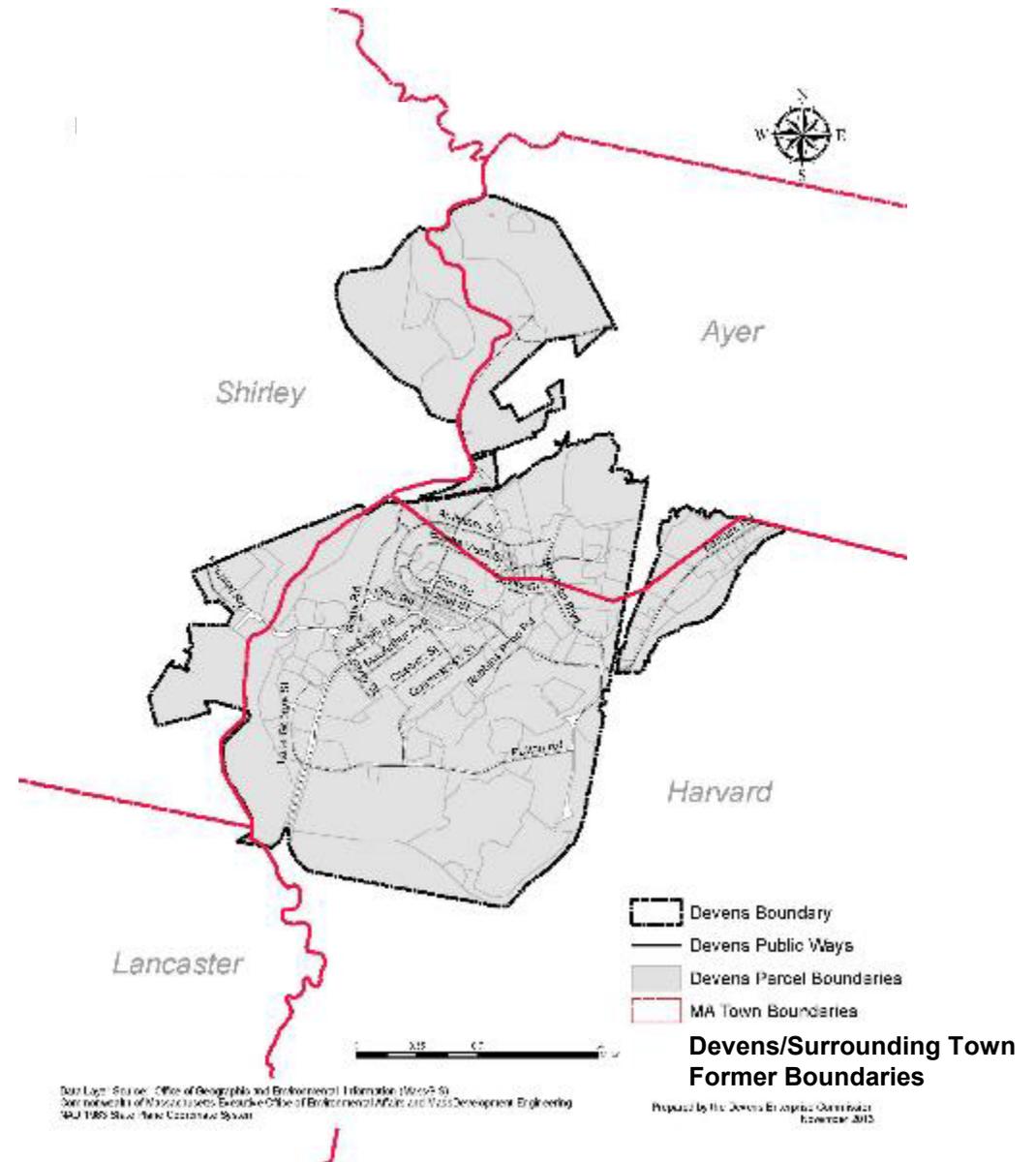
- Largest division: 49 employees
- Municipal functions
 - Utilities
 - Gas
 - Electric
 - Water & wastewater
 - Public Safety/Fire
 - Police Services/contract MSP
 - Environmental services
 - Public works & recreation



Devens

History

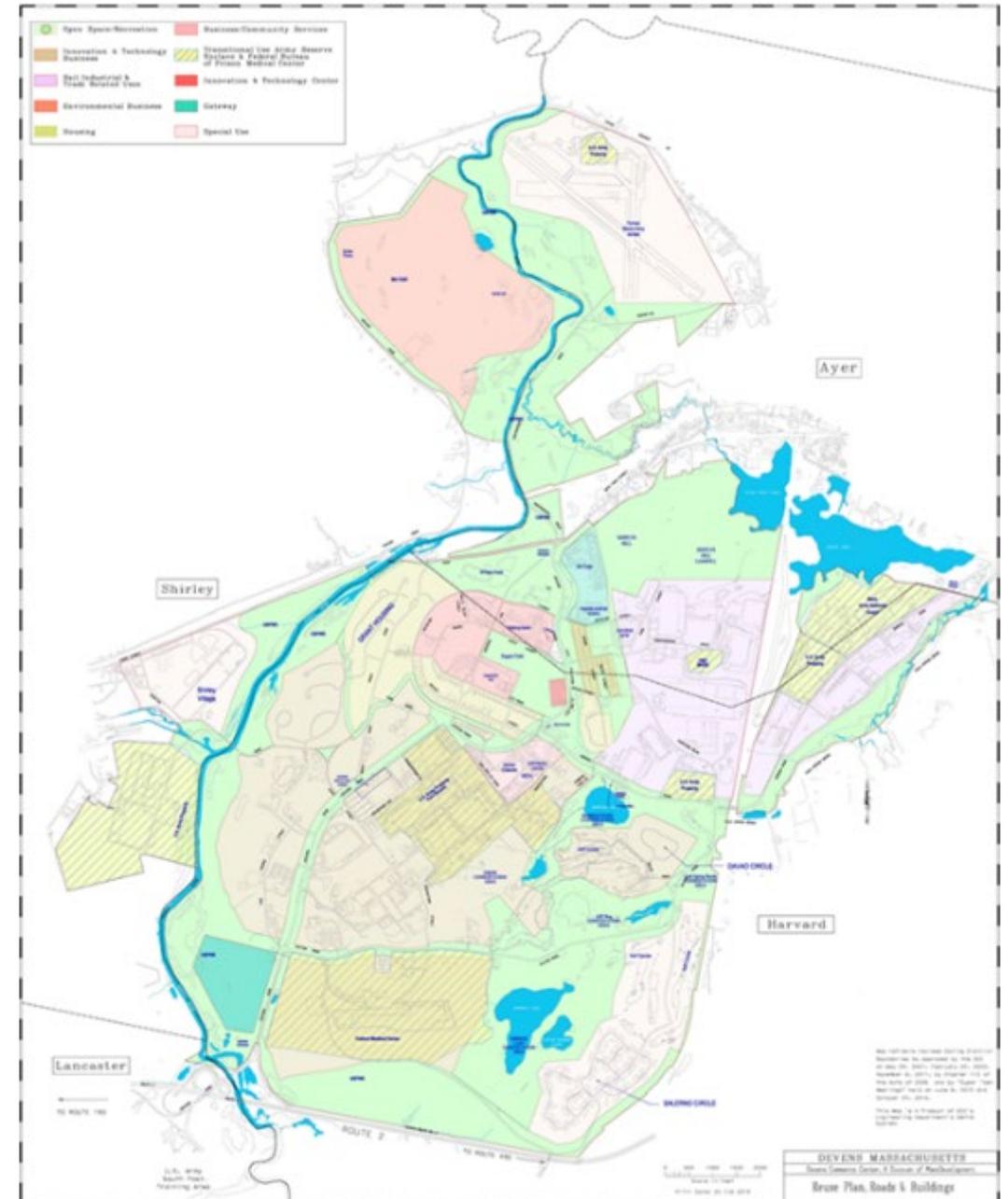
- U.S. Army's New England HQ for 79 years, closed in 1996; population 17,000
- MassDevelopment purchased the property to redevelop into a sustainable and diverse mixed-use community
 - MA legislature approved a \$200M bond bill for capital and operating expenses for Devens Regional Enterprise Zone (DREZ)
- Growing 4,400-acre mixed-use community and an award-winning model for military base reuse



Devens

Reuse Plan

- Goal of replacing the 7,000 jobs lost when Fort Devens was closed.
- Create a robust utilities infrastructure.
- Position Devens for long-term growth in innovation and technology sectors.
- Approximately 2,200 acres of land protected as permanent open space.
- Limits housing to 282 units.



Devens

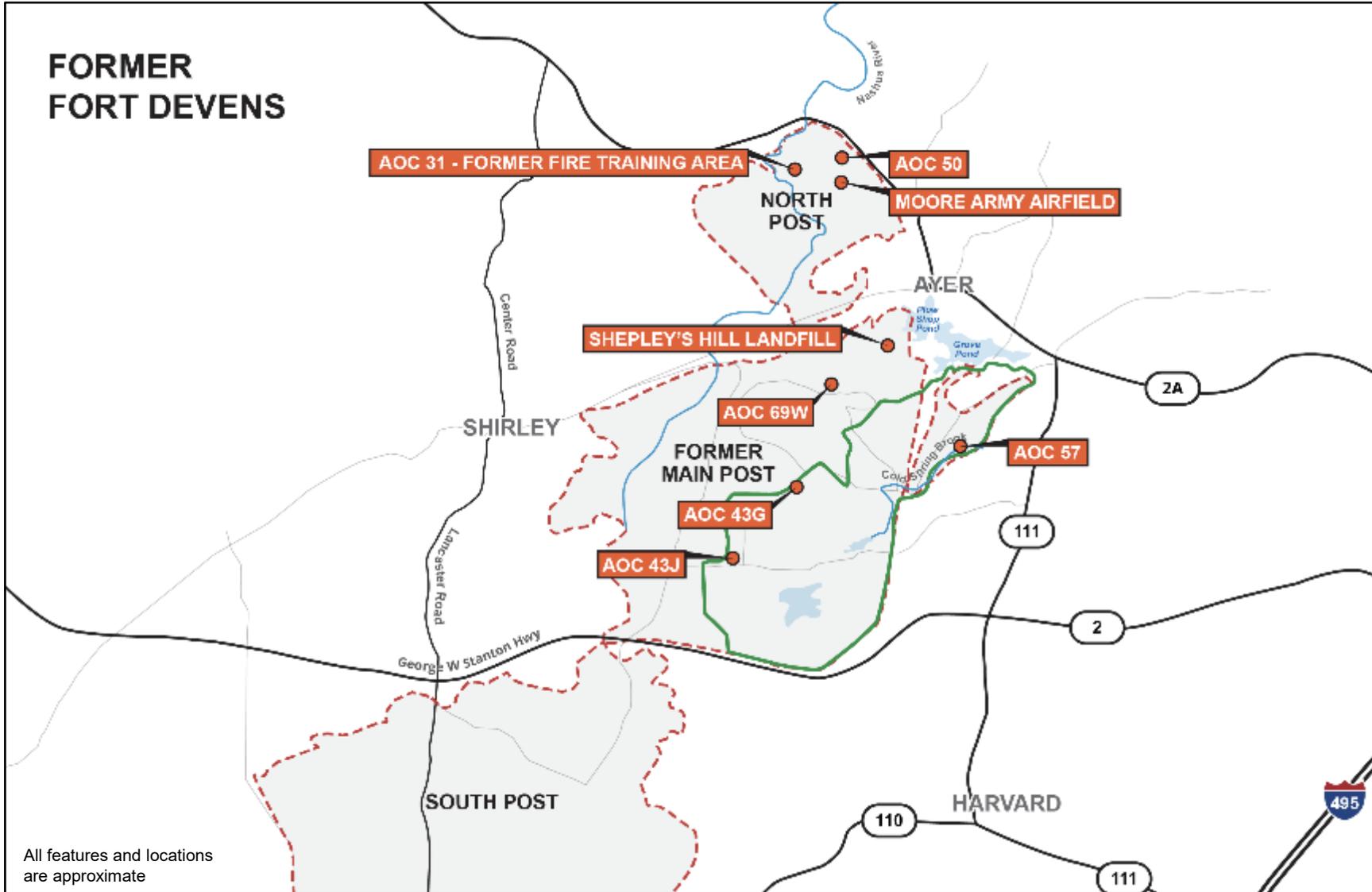
Today

- Approximately 950 residents (not including FMC Devens and TaraVista)
- Approximately 100 companies, nonprofits, and government organizations
- Daytime work population is projected at close to 10,000 people
- Devens Common with hotels, conference center, retail services, restaurants and more
- Based on a UMDI Devens report from June 2020, expansion of existing companies, attracting new companies and jobs, Devens firms estimated direct spending of \$2.33 billion, supports an additional estimated \$1.46 billion in spending in Massachusetts for a total economic contribution of nearly \$4 billion, 99 percent of which comes from private-sector firms. More than \$30.3 million of the total economic contribution came from nonprofit firms.
- Approximately 7 Million SF of development





2 | PROJECT UPDATES & UPCOMING WORK



-  Discussion Areas
-  PFAS Area 1
-  Former Fort Devens Boundary



2 | PROJECT UPDATES & UPCOMING WORK



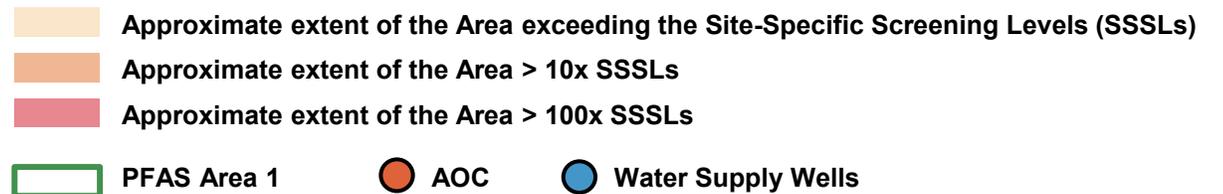
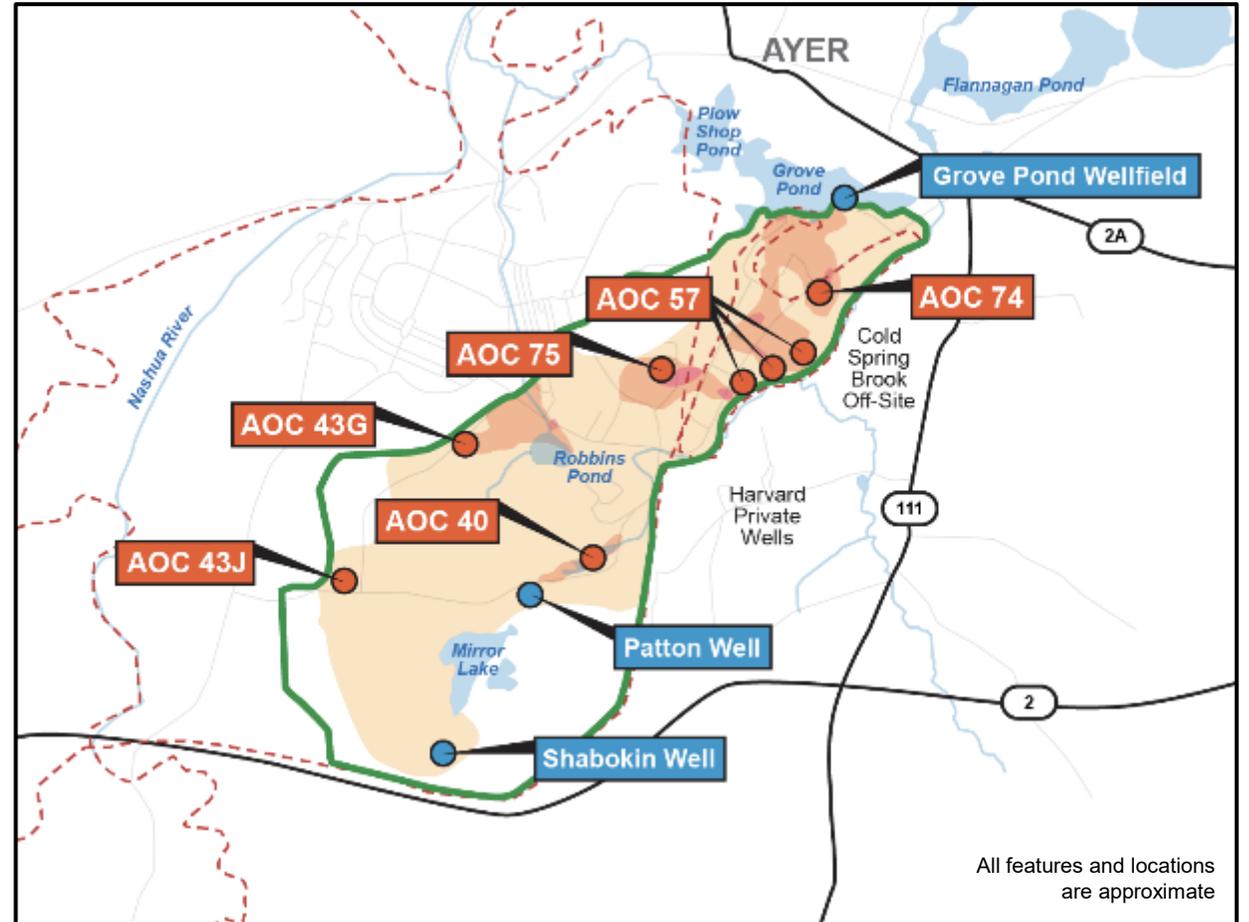
Area 1 Phase 2 PFAS RI Update

Current Concerns

- Horizontal and vertical extent of PFAS in soil and groundwater (overburden and bedrock)
- Sources of PFAS in drinking water supply wells at former Fort Devens (Grove Pond, Patton, and Shabokin wells)
- PFAS discharge to surface water bodies
- PFAS in private wells in Harvard
- Potential for PFAS migration beyond surface water bodies (Cold Spring Brook, Grove Pond)
- Risks to human health and the environment from PFAS presence in environmental media

Updates

- Army preparing Draft Final WP to submit in March 2023



All features and locations are approximate



2 | PROJECT UPDATES & UPCOMING WORK



Former Moore Army Airfield Updates

Current Concerns

- PFAS in soil and groundwater at AOC 31 - Former Fire Training Area (FFTA)
- PFAS discharge to surface water (Nashua River)
- Perchloroethylene (PCE) in groundwater; plume reduced through remediation since 2004.

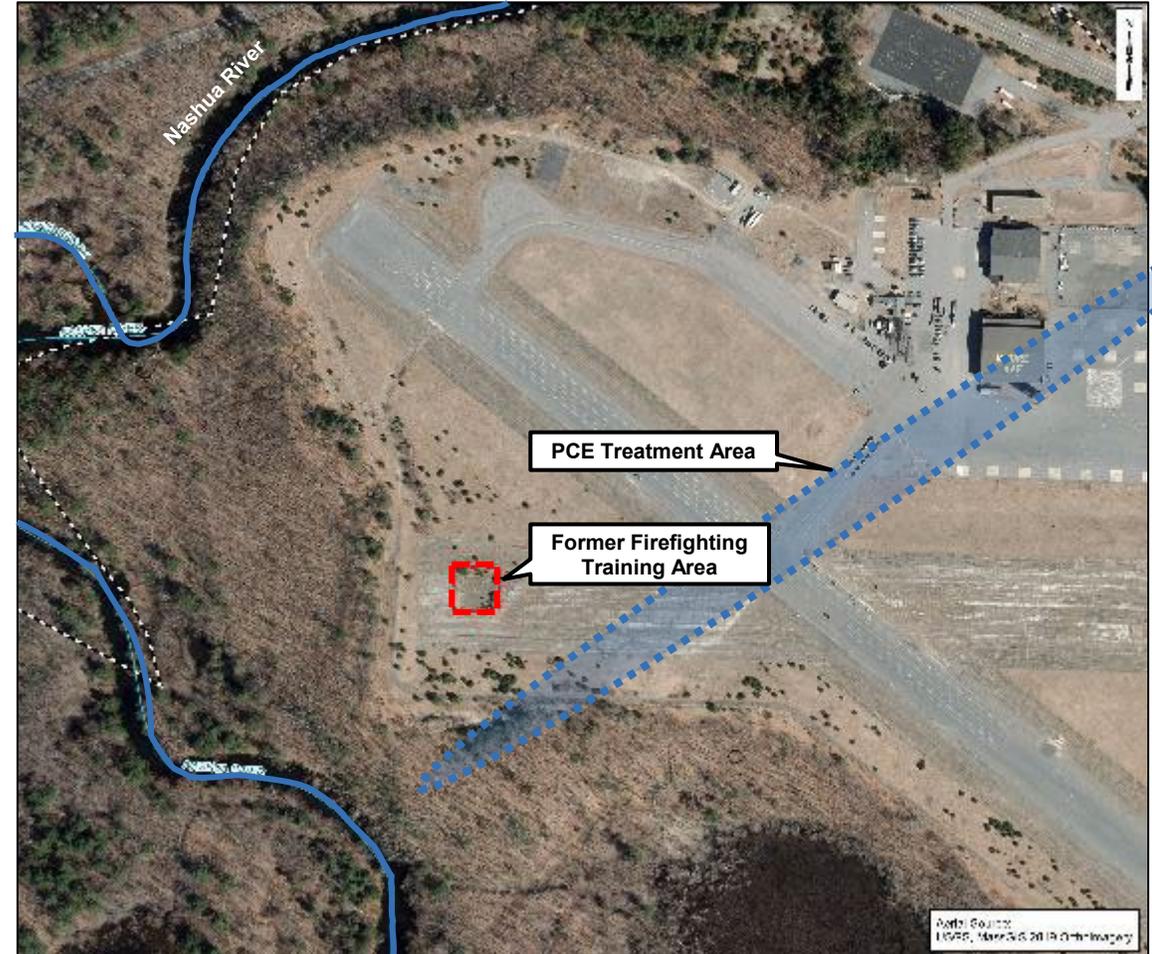
FFTA Pre-RI Data Collection and Treatability Study

Objectives: Collect additional data to support bench-scale treatability studies for FFTA soil.

Tasks: Collect soil and groundwater samples to evaluate PFAS concentrations with depth; conduct bench-scale treatability study of potential in-situ remedial technologies for soil.

Updates: Soil and groundwater sampling began in June 2022 and was completed in December 2022. Treatability study initiated in October 2022 and is ongoing.

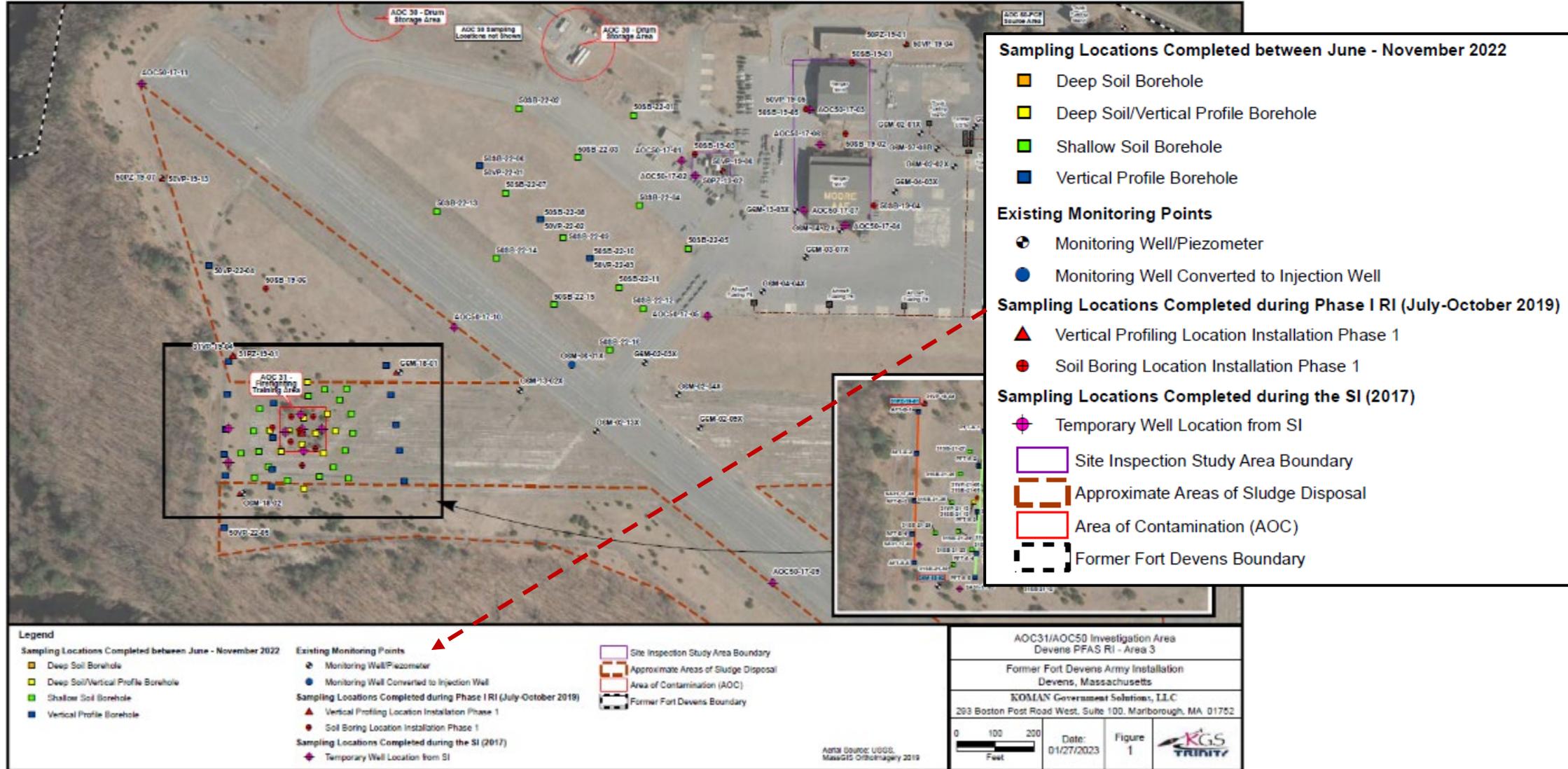
Next Steps: Lysimeter installation and data evaluation.





2 | PROJECT UPDATES & UPCOMING WORK

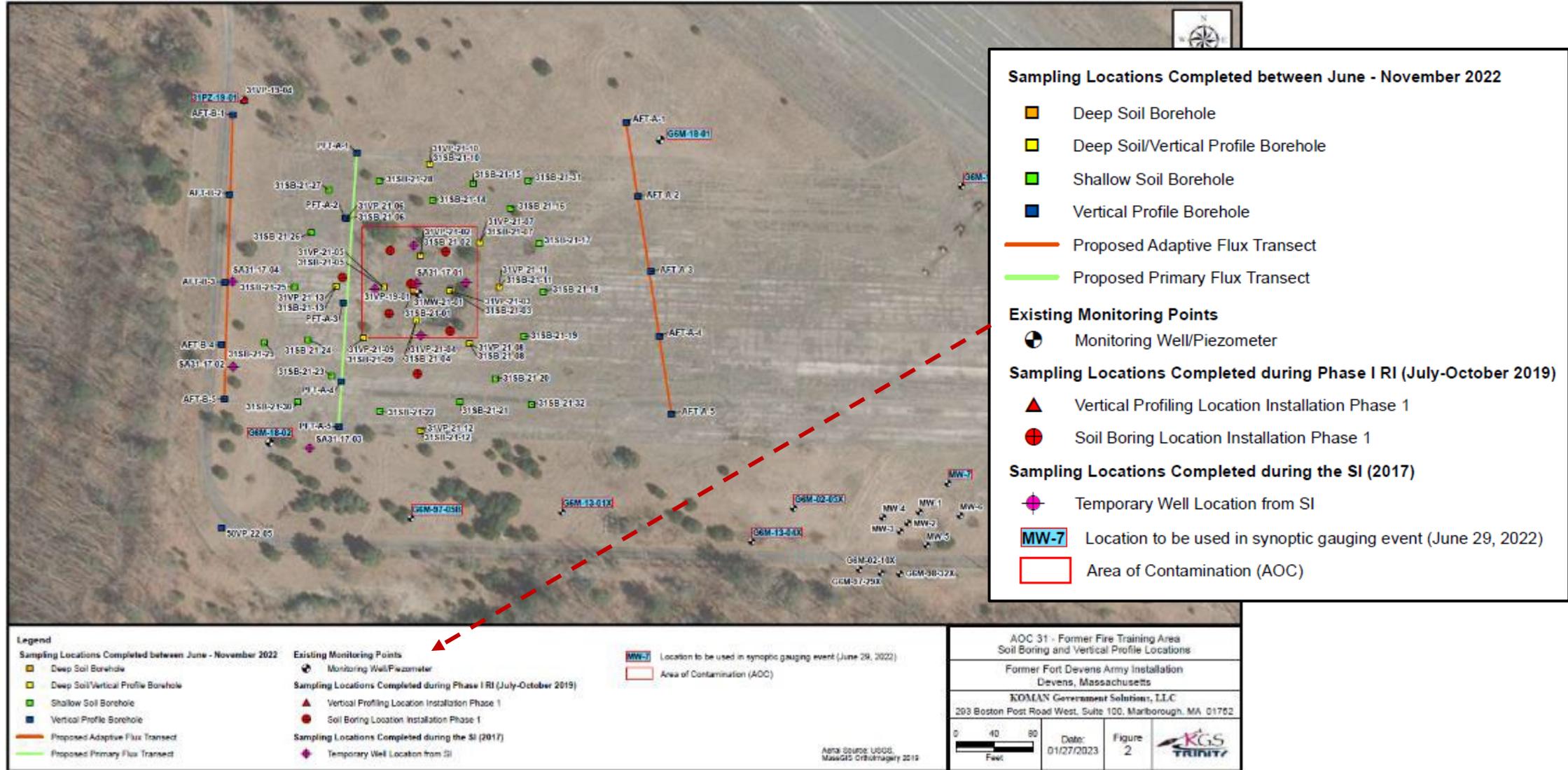
Former Moore Army Airfield Updates - FFTA Investigations





2 | PROJECT UPDATES & UPCOMING WORK

Former Moore Army Airfield Updates - FFTA Investigations





2 | PROJECT UPDATES & UPCOMING WORK



FFTA Soil Laboratory “Bench” Pilot Study

Description

- Army conducting laboratory pilot study of two potential remedial technologies for PFAS on soil collected from FFTA during 2022 drilling activities
 - ✓ In-Situ Solidification/Stabilization (ISSS)
 - ✓ Soil Washing

Objectives

- Evaluate whether these technologies are potentially applicable to FFTA

Updates

- Testing underway – TS Soil Washing to be completed by Summer 2023, ISSS to be completed by Fall 2023



FFTA Soil Laboratory “Bench” Testing

- FFTA Soil Characteristics
 - 97% Sand
 - 3% Fines (i.e., silt)





2 | PROJECT UPDATES & UPCOMING WORK



In-Situ Solidification/Stabilization (ISSS)

- Cleanup methods that prevent or slow the release of contaminants from soil or sediment into the surrounding environment (i.e., groundwater or surface water)
- **Solidification** binds the contaminants in a solid block of material and traps it in place.
- **Stabilization** causes a chemical reaction that makes contaminants less likely to be leached into the environment.
- The technologies can be used separately or together, depending on the contaminant and objectives.



[A Citizen's Guide to Solidification and Stabilization \(epa.gov\)](https://www.epa.gov/sites/default/files/2015-04/documents/a_citizens_guide_to_solidification_and_stabilization.pdf)

https://www.epa.gov/sites/default/files/2015-04/documents/a_citizens_guide_to_solidification_and_stabilization.pdf



2 | PROJECT UPDATES & UPCOMING WORK



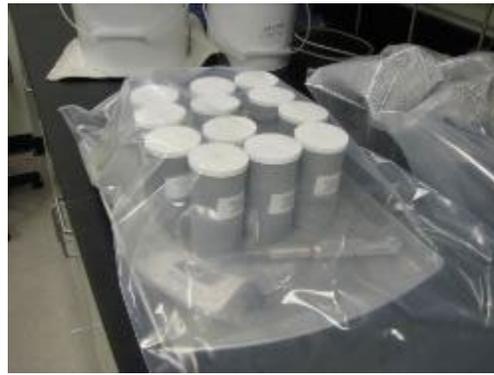
FFTA Soil In Situ Stabilization/Solidification (ISSS) Laboratory Study



Stabilizing Agent Optimization

Arcadis Treatability Lab

Testing various proprietary PFAS stabilizing reagents at multiple dosages for their ability to adsorb PFAS, thus preventing leaching.



Solidification Optimization

Arcadis Treatability Lab

Evaluating cement addition to solidify site soil to encapsulate PFAS by preventing contact with water.



Stabilization Leaching Test

Eurofins Pittsburgh

Leaching soils that have had stabilizing reagent(s) dosages added using LEAF Method for unconsolidated soils.



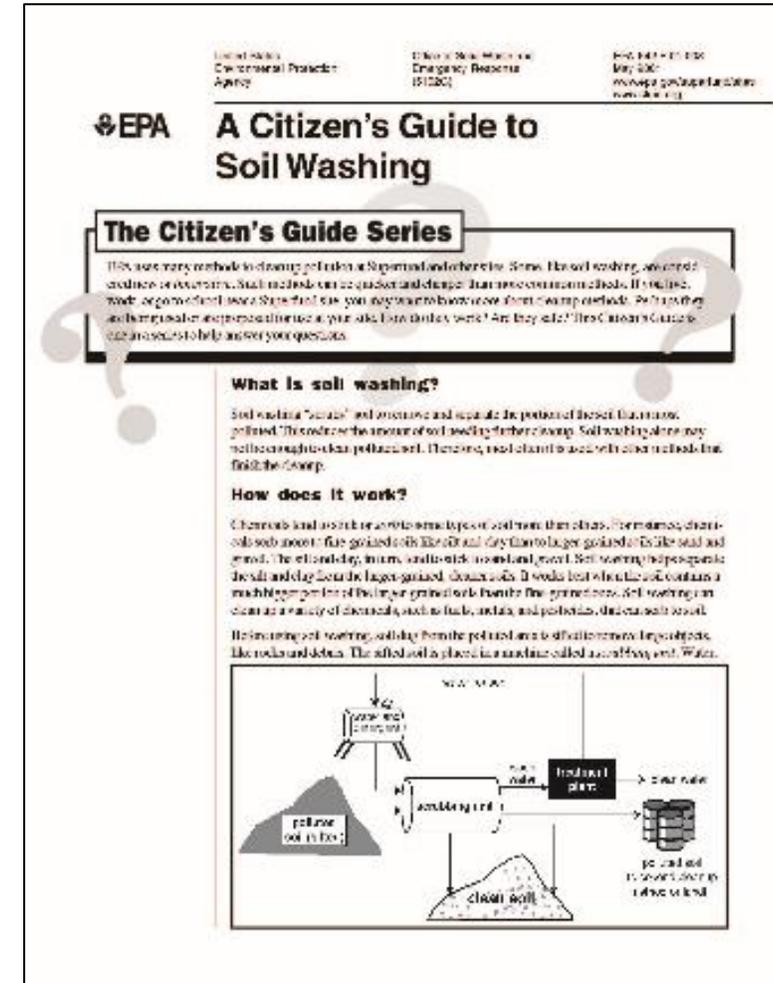
Solids Leaching Test

Eurofins Pittsburgh

Leaching Soils that have had stabilizing reagent(s) dosages added and been solidified with cement using LEAF Method “solid” materials.

Soil Washing

- Soil washing removes the portion of the soil that is most polluted, thereby reduces the volume of soil needing further cleanup.
- Organic contaminants, like PFAS, tend to stick (sorb) more to fine-grained soils like silt and clay than to larger-grained soils like sand.
- Soil washing helps separate the silt and clay from the larger-grained, cleaner soils.
- Soil washing works best when the soil contains a much bigger portion of larger-grained soils (sand) than fine-grained soils (silt/clay).



The image shows a page from the EPA's "A Citizen's Guide to Soil Washing" document. At the top, it lists the Environmental Protection Agency, Office of Remedial Action, and the Environmental Response System (ERS). The title is "EPA A Citizen's Guide to Soil Washing". Below the title is a box titled "The Citizen's Guide Series" with a brief introduction. The main content includes sections for "What is soil washing?" and "How does it work?". The "What is soil washing?" section explains that it separates pollutants from soil particles. The "How does it work?" section describes the process of washing soil with water to remove contaminants. At the bottom, there is a diagram of the soil washing process. The diagram shows a "polluted soil pile" being fed into a "washing unit". The washing unit has a "water inlet" and a "clean water outlet". The output of the washing unit is a "clean soil" pile. The diagram also shows a "product pile" and a "clean water" pile.

[CLU-IN | Technologies > Remediation > About Remediation Technologies > Soil Washing > Overview](#)

https://clu-in.org/techfocus/default.focus/sec/Soil_Washing/cat/Overview/



2 | PROJECT UPDATES & UPCOMING WORK



FFTA Soil Washing Laboratory Study

1. Soil Homogenization

- Homogenizing large volumes of soil is an important part of the treatability study so that results from the evaluation of multiple treatment approaches can be compared. The method used is “coning and quartering”.

2. Oversize Separation

- Wet sieving is used to separate particles between 2.0 and 4.75 mm. There was very little to no oversize larger than 4.75 mm.

3. Sand Fraction Creation

- Wet sieving is used to separate sand into 5 or 6 fractions between 2.0 mm and 0.038 mm

4. Soil “Fines” Flocced and Settled

- Water treatment chemical used to “floc” colloidal soil particles (“fines”) to increase settling velocity.



2 | PROJECT UPDATES & UPCOMING WORK



Nashua River Military Munitions Updates

Project Plan

- Final Munitions Response Quality Assurance Project Plan (MR-QAPP) submitted on 30 November 2022

Geophysical Investigation

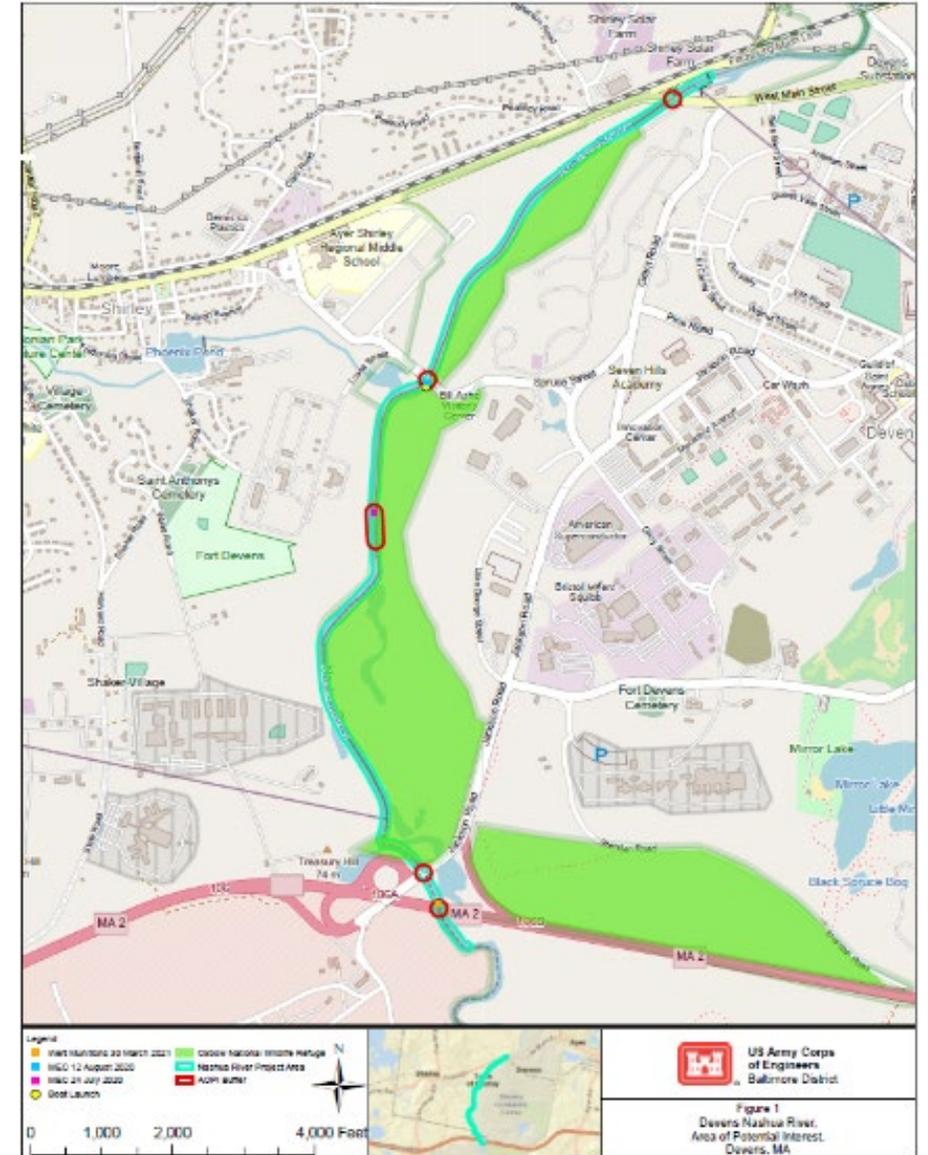
- Side-Scan Sonar (SSS)/Bathymetry Survey Operations to commence in February/March 2023 followed by Quality Control Seeding and then Underwater Digital Geophysical Mapping (DGM)

Anomaly Avoidance Activities

- Planned to support next Nashua River Watershed Association (NRWA) volunteer event in Summer 2023

Underwater Intrusive Investigation

- Investigation of underwater anomalies to begin following approval of anomaly list resulting from geophysical investigation





2 | PROJECT UPDATES & UPCOMING WORK



Shepley's Hill Landfill Updates

Current Concerns

- Ability of existing groundwater extraction system to meet cleanup goals
- Safety and reliability of existing aboveground groundwater treatment system (aka, ATP)





2 | PROJECT UPDATES & UPCOMING WORK



Shepley's Hill Landfill Updates

(continued)

Groundwater Remedy Evaluation

Objective: Evaluate alternatives to existing groundwater extraction system.

Tasks: Focused Feasibility Study (per USEPA 2016 SHL SOW Phase 3).

Updates: Draft Focused Feasibility Study to be submitted March 2023; 3rd Extraction Well Installation and Pilot Testing Summer/Fall 2023

Improve Performance of Existing Groundwater Extraction System

Objectives: Optimize the aboveground treatment process; Pilot test improved groundwater capture with 3rd extraction well.

Tasks: Replace oxidant with permanganate (currently chlorine) and “improve” filtration in Spring 2023

Updates: Final Design Memo for metals removal systems submitted to Agencies in October 2022; system upgrades estimated Spring/Summer 2023.



2 | PROJECT UPDATES & UPCOMING WORK



Shepley's Hill Landfill Updates

(continued)

Plow Shop Pond Barrier Wall Evaluation

Objective: Confirm that the barrier wall is preventing groundwater discharge containing arsenic to Plow Shop Pond.

Tasks: Conduct field investigation in accordance with Work Plan approved in April 2022.

Updates: Field work to be conducted once contracting is complete (Summer/Fall 2023). Annual fact sheet describing Land Use Controls for groundwater sent out in Fall 2022.

Long-Term Monitoring

Objective/Tasks: Groundwater sampling performed semi-annually to evaluate remedy performance.

Updates: Draft 2022 Annual Report on data collected Spring and Fall 2022 to be submitted May 2023; Spring 2023 sampling scheduled for May 2023.



2 | PROJECT UPDATES & UPCOMING WORK



Former Main Post Updates

Supplemental Post-ROD RIs for AOCs 69W, 57, and 43G

Current Concern: Is current groundwater remedy still effective / protective?

Objective: Evaluate fate and transport of remaining contaminants.

Tasks: Temporary and permanent groundwater monitoring well installation, groundwater sampling, groundwater flow evaluation.

Updates: RTCs for Revised Draft Work Plan for AOC 69W submitted Oct. 2022; Draft Final Work Plan for AOC 43G submitted in Jan. 2023; Draft Final Work Plan for AOC 57 submitted in Feb. 2023; field work scheduled start Spring 2023 (following approval of Work Plans).

LUCIPs for AOCs 44/52, AOC 69W, AOC 57, and SA 71

Current Concern: ROD-specified land use controls have been implemented but are not memorialized in CERCLA documents.

Objective: Memorialize requirements for implementing, monitoring, and enforcing ROD-specified land use controls.

Tasks: Prepare LUCIPs for MassDEP and USEPA approval.

Updates: Draft Final LUCIPs for AOCs 69W (Dec. 2022) and 57 (Jan. 2023) submitted to agencies; EPA submitted comments on Draft 44/52 and SA71 LUCIPs Jan. 2023.



2 | PROJECT UPDATES & UPCOMING WORK



Final Documents Posted Since Last RAB Meeting

- Final Munitions Response Quality Assurance Project Plan—Nashua River

Draft Documents Since Last RAB Meeting

- Draft Proposal – Installation and Pilot Testing of 3rd Extraction Well at SHL

Responses to Comments/Revised Documents Since Last RAB Meeting

- Draft Final AOC 69W LUCIP
- Draft Final AOC 57 LUCIP
- Draft Final AOC 43G Post-ROD Supplemental Remedial Investigation Work Plan
- RTCs: Draft AOC 44/52 LUCIP
- RTCs: Draft AOC 57 LUCIP
- RTCs: Draft SA71 LUCIP
- RTCs Revised Draft AOC 57 Post-ROD Supplemental Remedial Investigation Work Plan



3 | COMMUNITY INVOLVEMENT & RAB



Physical document information repository (IR) is at the Ayer Library



Digital Administrative Record (AR) continues to be populated with project documents



Military munitions notifications and public outreach efforts continue



The next quarterly RAB meeting will be May 11, 2023

The Community Involvement Plan (CIP) and other information is available on the Fort Devens Environmental Cleanup website at:

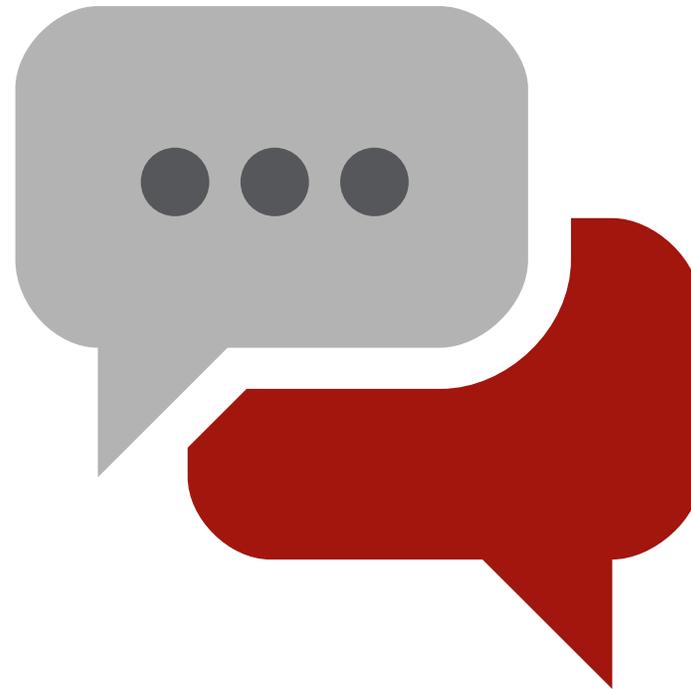
<https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>

Digital AR link is now live and initial documents are available at:

<https://www.nae.usace.army.mil/Missions/Projects-Topics/Former-Fort-Devens-Environmental-Cleanup/Administrative-Record/>



4 | QUESTIONS & ANSWERS





THANK YOU!
YOUR PARTICIPATION IS APPRECIATED!

NEXT RAB MEETING IS:
MAY 11, 2023

(Second Thursday of the month)